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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,547	01/06/2006	Yasuhiro Tanaka	09792909-6329	6870

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EXAMINER
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ZIMMERMANN, JOHN P

ART UNIT	PAPER NUMBER
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2861

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09/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/542,547	Applicant(s) TANAKA ET AL.	
	Examiner John P. Zimmermann	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 4-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>18 July 2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. **Claims 4-6, 7-9, 10-14, 15-19, & 20-22** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Groups II - VI, there being no allowable generic or linking claim.
2. Additionally, **Claims 1-3** are further restricted to the elected species "A - The material making up the hydrophobic colloid is alumina."
3. Election was made **without** traverse in the reply filed on 07 September 2007.

### *Priority*

4. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

### *Information Disclosure Statement*

5. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

***Oath/Declaration***

6. Receipt is acknowledged of papers filed under 35 U.S.C. 119 (a)-(d) based on an application filed in Japan on 08 January 2004. Applicant has not complied with the requirements of 37 CFR 1.63(c), since the executed oath, declaration or application data sheet filed on 06 January 2006 does not acknowledge the filing of that specific foreign application. A new oath, declaration or application data sheet is required in the body of which the present application should be identified by application number and filing date.

***Drawings***

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: #5 – tray housing [Specification, Page 11, Line 19 and following]. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

8. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

9. **Claim 3** is objected to because of the following informalities: There appears to be a typographical error in the first line, the word "he" is inappropriately used and examiner understands the correct word should be "the." Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. **Claims 1-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tomioka et al.**, (US 6,517,199 B1) in view of **Schut**, (US 6,281,269 B1).

a. As related to independent **claim 1**, Tomioka et al. teach a liquid composition which is to flow through a channel in which a silicon-containing material is exposed (Tomioka et al. – Title & Abstract), the composition containing: a solvent (Tomioka et al. – Detailed Description, Column 12, Lines 61-63); and a hydrophobic colloid [i.e. a mixture having little or no affinity for water] that is charged with [i.e. contains cationic fine particles] a positive zeta position [i.e. Positive Zeta Potential] (Tomioka et al. – Detailed Description, Column 10, Lines 7-10) when the pH of the composition is controlled to a range of over 4 and under 6 [i.e. a range from 3 to 6] (Tomioka et al. – Detailed Description, Column 10, Lines 55-58). Tomioka et al. *do not* specifically teach the narrow range of over 4 and under 6. *However*, Schut teaches a fluid set for ink-jet printers with a liquid composition [i.e. reactive fluid or 5<sup>th</sup> pen fluid] this liquid composition having a controlled pH in a range of about 3 to about 6, more preferably

from about 4 to about 5 (Schut – Title; Abstract; & Detailed Description, Column 7, Lines 7-10).

b. As related to dependent **claim 2**, Tomioka et al. teach the hydrophobic colloid contains one or a mixture of more than one, selected from alumina, cerium oxide, barium oxide and iron hydroxide, specifically alumina as previously elected (Tomioka et al. – Detailed Description, Column 11, Lines 15-20).

c. As related to dependent **claim 3**, Tomioka et al. teach the composition contains more than 3 ppm [i.e. greater than 0.0003 % by weight] of the hydrophobic colloid (Tomioka et al. – Detailed Description, Column 11, Lines 50-55).

d. Given the same field of endeavor, specifically a liquid composition which flows through a channel in which a silicon-containing material is exposed [i.e. piezoelectric printhead] in an ink-jet printer, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the liquid composition made up of the elements and with a pH in the range as taught by Tomioka et al., with the specific tightening of the range in which the pH of the liquid composition falls as taught by Schut, in an effort to prevent corrosion of the recording head, improve the rub-off resistance of the print (Tomioka et al. – Detailed Description, Column 10, Lines 56-58) and provide permanence benefits such as smearfastness, smudgefastness, and waterfastness (Schut – Abstract).

***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hadjisoteriou et al. (US 2002/0130937 A1) teach a liquid composition for ink jet printing with a pH of 5. Nagai (US2004/0155946 A1) teaches an ink jet recording ink set with alumina, pH in the range of 2-6, preferably 4-6, and a positive zeta potential.

15. ***Examiner's Note:*** Examiner has cited particular Figures & Reference Numbers, Columns, Paragraphs and Line Numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Zimmermann whose telephone number is 571-270-3049. The examiner can normally be reached on Monday - Thursday, 7:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
JPZ



**MATTHEW LUU**  
**SUPERVISORY PATENT EXAMINER**